

Offshore Training Program

Course Descriptions

The following is a listing of just some of the descriptions for courses regularly offered through the Offshore Training Program:

Courses for All BSEE Personnel

BSEE Matrix Management (24 hours):

What is Matrix Management? It is a type of organizational management in which people with similar skills are pooled for work assignments, resulting in more than one manager (sometimes referred to as solid line and dotted line reports, in reference to traditional organizational charts.) This “Getting Results Without Authority” course will enable the participant to:

- determine their personal power base
- analyze their approach to influencing others
- develop and apply persuasion skills using four skill steps to influence others
- appreciate the value of constructive conflict and learn how to work through conflict when influencing
- Identify the basic step of negotiation and promote Win/Win results

BSEE Petroleum Engineering for Non-Engineers (40 hours):

The course provides a basic understanding of offshore systems in all water depths, from shallow to ultra-deepwater, including:

- design
- construction and operations

The course includes elements of field architecture to define:

- field development
- types and terminology of offshore production facilities and structures
- basic processes and equipment involved in the topsides design and operation
- equipment used in the transportation of produced fluids and treatment chemicals
- life-cycle and decommissioning decisions.

BSEE Process Safety Boot Camp© (32 Hrs):

This course will provide the basics of Process Safety and Process Safety Management. Process safety is intended to prevent damage to equipment leading to catastrophic fires, explosions, and toxic releases.

BSEE Project Risk Analysis and Management (32 hours):

This course will focus on examining and applying qualitative and quantitative risk analysis techniques used in the Best Practice Assessment of uncertainties in a project-based enterprise.

BSEE Time Management (16 hours):

This course is designed for those who want greater control of their time, management style, and life. This course includes topics on planning for success, concentration, focus, managing technology, creating boundaries and balance.

Courses for BSEE Inspectors and Engineers

BSEE Principles of Regulatory Inspections (24 hours)-Level 2:

This course provides the participant with an understanding of the role of the Inspector and Environmental Enforcement Officers, including:

- the relationship and responsibilities within BSEE
- regulations
- guidelines
- policies that govern BSEE Inspection and Environmental Enforcement Programs

BSEE Basic Well Operations (24 hours)-Level 2:

This course provides students with an overview of the operations, equipment and terminology associated with drilling and well completion operations. This course consists of classroom demonstrations and a rig visit, including inspection exercises.

Note: All students attending this course must bring steel toe shoes and appropriate clothing for a RIG facility. The training center will provide hardhats and safety glasses.

BSEE Production Inspection Administration (16 hours) - Level 2:

This course will prepare the BSEE Inspector to identify and perform the administrative functions associated with a Production Inspection.

BSEE Production Safety Systems -T2 (24 hours) - Level 2:

This 3-day course provides students with an understanding of the oil and gas production facility offshore, with a concentration on safety systems. Students learn more through open class discussions and demonstrations.

BSEE Well Operations Inspection - Administration (16 hours) – Level 2:

This course will prepare the BSEE Inspector to identify and perform the administrative functions associated to a Well Ops Inspection.

BSEE Basic Instrumentation (32 hours) – Level 3:

This course provides the student with an introduction to:

- instrumentation and control
- pressure control systems and control valves
- level control systems
- PLC, DCS, and SCADA

BSEE Introduction to Coiled Tubing (24 hours) – Level 3:

This course will familiarize the participant with the fundamentals of Coiled Tubing Operations to include Basic Coiled Tubing Equipment, Coiled Tubing String and Coiled Tubing logging and design.

BSEE Coil Tubing, Wireline and Snubbing Operations (39 hours) – Level 3:

This course provides the reasons and definitions of completions and workovers, coil tubing operations and equipment, types of wireline and procedures, complications and solutions, and snubbing procedures and equipment.

BSEE Cranes and Rigging Inspections (32 hours) - Level 3:

This course will identify major inspections hardware and components including review and discussion on all structurally critical components, safety requirements and principals of proper, effective and structural safeness of cranes. Special emphasis is given to:

- knowledge of special critical inspection
- maintenance and troubleshooting procedures
- hoist troubleshooting and overhaul
- structural aspects of offshore cranes
- load charts and identification of cranes and the mechanical components of cranes.

BSEE Electrical/Electrical Area Classification Inspections (24 hours) -

Level 3:

This course focuses on the principles of flammable gas and liquids and area classifications. The principles of protection afforded by NEC/IEC apparatus, substances and their symbols, as well as the certification and markings of the different apparatuses.

BSEE Fire and Gas Detection Systems (24 hours) - Level 3:

This course will provides the ability to recognize potential hazards, types of detectors, wiring and documentation. This course will cover testing and maintenance, confirmed fire and gas, combined safety systems (CSS), shutdown philosophy, cause and effect, and associated processes and instrumentation diagrams.

BSEE Incident Investigation (38 hours) - Level 3:

This course will provide a practical understanding of how to plan, conduct and conclude an incident investigation. This course describes the methods and techniques used for data gathering, interviewing, reporting investigative findings, and developing recommendations. Participants will be provided classroom instruction, workshops, case studies and a “hands on” practical.

**NOTE: This course may be held at the Federal Law Enforcement Training Center (FLETC) in Charleston, SC*

BSEE IPT Global Level II (20 hours) – Level 3:

This course will provide an introduction covering the fundamentals of IPT Global’s software solutions, namely SureTec™, SurePlan™ & SureView™ in the context of offshore pressure testing operations.

BSEE SUBSEA BOP Stacks (32 hours) – Level 4:

This course focuses on SUBSEA and Well Control equipment (blow-out preventers and diverters), its inspection criteria, certification requirements, maintenance procedures and documentation. It will acquaint personnel tasked with inspection of deepwater drilling activities with the equipment and BSEE inspection procedures.

BSEE Deepwater Completions (32 hours) – Level 4:

This course will provide the participant with information on deepwater well construction; the impact of formation damage; the types of completions; completion equipment, and surface controlled subsurface safety valves.

BSEE Drilling from Floating Facilities (32 hours) – Level 4:

This course will provide the history and the science behind floating drilling. It provides an overview of the SUBSEA technology and operations, the safety and compliance requirements and criteria for the rig selection.

BSEE SUBSEA Concepts (32 hours) – Level 4:

This course focuses on subsea components and how they are integrated into field architecture. Participants will develop a basic understanding of the various subsea components used in all water depths.

BSEE Subsea MUX(Multiplex) BOP Control Systems (24 hours) - Level 4

This course will cover the BOP MUX Control Systems definition and functions; the Anatomy of a BOP MUX Control system; and the hardware architecture overview.

BSEE Electronic Safety Shutdown System (16 hours) - Level 4:

This course provides information and practice to understand the use of the Master Status Panel (MSP) and Local Control Panels (LCP's) to locate and tag the first-out process shutdown event, subsequent shutdown events, manual bypasses, classes A, B, C, and C/B bypasses, process alarms, and miscellaneous shutdowns.

BSEE Valves (32 hours) – Level 4:

This course will cover the function and classification of valves and the fundamental principles of valve operations and maintenance and actuator technologies. This course will include insight into valve and actuator technology covering control valves, check valves, shut-off valves, solenoid valves, and pressure relief valves.

Additional Courses for BSEE Inspectors**BSEE Cement Integrity Assurance and Evaluation (32 hours):**

This course will provide a detailed review of the cementing processes and parameters that would ensure the integrity of the cement sheath during the life of the well. In addition, a comprehensive cement sheath evaluation section discussing the various measurements and interpretation techniques as well as the factors that affect the quality of the measurement and interpretation.

BSEE Hydrocarbon Measurement Auditing & Troubleshooting (28 hours)

This course will cover hydrocarbon measurement auditing and troubleshooting to include:

- Principles of measurement auditing
- Measurement problems and solutions
- Volume and energy corrections and adjustments
- Industry measurement standards
- Meter installation effects
- Field measurement issues
- Gas meter lab calibrations
- Orifice, ultrasonic, turbine, Coriolis
- Gas measurement uncertainty

Specialized Courses for BSEE Engineers

BSEE Offshore Drilling 101 (38 hours) – Level 2:

This course is designed for engineers new to BSEE. This course will cover the regulations specific to Well Operations followed by three days that include:

- Drilling equipment
- Primary functions of drilling fluids
- Pore and fracture pressures
- Well control concepts

The last day of class incorporates application of the permitting process.

BSEE Fired Vessels (16 hours) – Level 2:

Upon completion of this course, participants will recognize and be able to respond to typical fired heater problems that may occur during operations. They will have an understanding of fired heater operations and the methods that can be applied to improve operating efficiency.

BSEE Basic Electrical (16 hours) - Level 3:

This course provides a basic understanding of electrical systems and the associated electrical skills. The course will cover the dangers of electricity, electrical isolations, restorations, testing equipment, and basic electrical theory.

BSEE Advanced Casing and Tubing Design (32 hours) – Level 3:

This unique course is the first to address advanced concepts and issues common to HPHT, deepwater, extended-reach, and other critical wells. Participants learn how to use state-of-the-art tools to develop non-traditional, reliability-based casing designs. The course reviews significant changes to API Bulletin 5C3 and ISO/TR 10400 well design specifications, which now use new limit-state, probabilistic methods to determine pipe performance properties, instead of the deterministic methods that have previously been used.

BSEE Drilling Fluids (32 hours) – Level 3:

This is an advanced level course designed to integrate drilling fluids, solids control, and waste management practices into an operator's drilling program to ensure that the technical and environmental objectives of the well are met in a cost effective manner. This course begins by reviewing both water base and non-aqueous drilling fluids and drilling fluids properties required for various applications. By the end of this course the student will be able to select the drilling fluids system that gives the optimum value, maintain the correct formulation for that system that gives the necessary properties by interval, maximize the use of solids control equipment, and select the best waste management options required.

BSEE Primary Cementing (32 hours) – Level 3:

This course will provide the proper use of cementing additives, interpreting laboratory test results, performing primary cementing operations, conducting squeeze jobs and tool selection, performing cementing plug operations and interpreting cement sheath evaluation logs.

BSEE Glycol Dehydration (24 hours) – Level 3:

This course will provide the student with the methodology and principles of Gas Dehydration through the Triethylene Glycol Regenerative method.

BSEE Well Intervention (32 hours) – Level 3:

This course focuses on the equipment needed for well interventions or workovers, with and without a rig, and the resources necessary for equipment selection. The participant will learn the characteristics of a competent workover program and the performance metrics used to quantify workover success.

BSEE Electronic Instrumentation (SCADA) (24 hours) – Level 4:

This course will provide SCADA and industrial networking principles. Instrument and equipment interfaces, telecommunications services and link protocols and reliability and redundancy issues.

BSEE Production Piping-Advance (16 hours) – Level 4:

This course emphasizes the piping flexibility analysis process, including practice application of simplified methods and illustration of computer analysis methods. This course also covers requirements for nonmetallic, Category M fluid service and high pressure piping, as well as in-service inspection to API 570 and a comparison to ASME B31.1 Power Piping requirements.

BSEE Offshore Well Abandonment (32 hours):

This course will cover Well Abandonment principles, tools and methods, as well as:

- Plug cementing
- Hydrostatic pressure
- Mechanical plugs
- Cased hole logs
- Casing cutters
- Rules for Offshore Abandonments in the Gulf of Mexico

BSEE Well Integrity (32 hours):

This course focuses on the principles of well barriers as they apply to the importance and difficulty of achieving well integrity. The focus will include well integrity elements and issues; well barrier verification; well barrier element selection in intervention and abandonment; and the Well Integrity Management Systems.

BSEE Managed Pressure Drilling (MPD) Design & Operations (24 hours)

This course will provide the participant with knowledge to enable the selection, screening, engineering and execution of MPD projects. The course will highlight drilling characteristics and non-productive time problems that drive consideration and ultimately either rejection or selection of one or more of the available variants of managed pressure drilling technology. The course explains the advantages, disadvantage and key considerations when evaluating and selecting MPD candidates.

BSEE Rigless Interventions (32 hours):

This course will enable the participant to describe common applications of Slickline, non-conductive braided cable and e-line (logging cable). In addition, pressure control equipment and to gain entry in to a live well, rig up limitations, configuration of basic wireline toolstring and it is manipulated, most common wireline problems and how to avoid them. The participant will be provided with an introduction to the newest slickline intervention techniques currently available.

BSEE Stuck Pipe Prevention and Fishing (32 hours):

This course will cover:

- Stuck Pipe Prevention
- Hole pack-off and bridging
- Differential Sticking
- Formation & Wellbore Geometry-Related Problems
- Hole Cleaning
- Tools, Equipment & Systems
- Down Hole Operations
- Fishing Coiled Tubing